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## **RHEUMATOID SPONDYLITIS ASSOCIATED WITH ANEURYSMAL DILATATION OF THE ENTIRE THORACIC AORTA**

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The association of aortic regurgitation and rheumatoid spondylitis is well recognized.<sup>1-9</sup> Aortitis caused by focal destruction of elastic tissue leads to dilatation of the aortic ring, and scarring and retraction of the aortic cusps. There is little tendency to fusion of the commissures. Microscopic changes consist of focal necrosis with varying degrees of collagen and elastic fiber destruction and eventual fibrosis and calcification.<sup>3-7</sup> Although the histologic appearance resembles that of luetic aortitis it has been emphasized that the lesion associated with rheumatoid spondylitis is localized to the aortic root and usually does not extend more than 2.5 cm into the ascending aorta.<sup>3</sup> One case of an aneurysm of the descending thoracic aorta has been reported in a patient with rheumatoid spondylitis.<sup>3</sup>

To our knowledge, aneurysmal dilatation of the entire thoracic aorta associated with rheumatoid spondylitis or rheumatoid arthritis has not been described previously. In a review of 107 cases of aneurysms of the thoracic aorta, rheumatoid spondylitis was not encountered.<sup>10</sup> For this reason, the following case is presented:

### **CASE REPORT**

In 1942, a 21-year old Caucasian male first developed malaise, fever, and arthralgia. Over the ensuing months back pain, progressive stiffness and immobility appeared and he assumed a stooped posture. Marked loss of height occurred. Concomitant with his initial complaints were symptoms of palpitations and exertional dyspnea.

In October 1949 physical signs of aortic regurgitation were present on examination at Henry Ford Hospital. Roentgenographic examinations were reported to show obliteration of the sacroiliac joint, straightening of the normal curvature of the lumbar spine and calcification of the longitudinal ligaments. These findings indicated rheumatoid spondylitis.

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Fluoroscopy of the chest revealed generalized cardiac enlargement with increased pulsations of the left ventricle. Serologic test for syphilis was nonreactive. Changes of complete right bundle branch block and early left ventricular hypertrophy were present on an electrocardiogram taken then.

In spite of intensive therapy with salicylates and a course of radiation therapy, arthritic symptoms progressed over the ensuing years. In addition, deterioration of exercise tolerance and increasing exertional dyspnea and fatigue occurred. In December of 1965 he was readmitted to Henry Ford Hospital at which time the classical physical stigmata of rheumatoid spondylitis and signs of severe aortic regurgitation were present. Blood pressure was 160/64. The second sound in the aortic area was minimally diminished. A grade 2/6 harsh ejection murmur was heard across the base with extension into the neck and a grade 3/6 high-pitched early blowing diastolic murmur was audible over the entire precordium, loudest down the left sternal border. A mid-diastolic soft rumbling murmur was heard at the apex when the patient was in the left lateral position. The electrocardiogram showed first degree atrioventricular block, complete right bundle branch block, and left ventricular hypertrophy. Examinations of the blood were unremarkable and included a non-reactive test for syphilis. Marked enlargement of the heart with a large left ventricle was apparent on chest fluoroscopy. The entire thoracic aorta was aneurysmal; dilatation of the left subclavian artery was also present (Fig. 1 and 2).

Because of the rather severe aneurysmal disease and the aortic regurgitation, surgical therapy was not advised and the patient was discharged to be followed under close medical supervision.

#### DISCUSSION

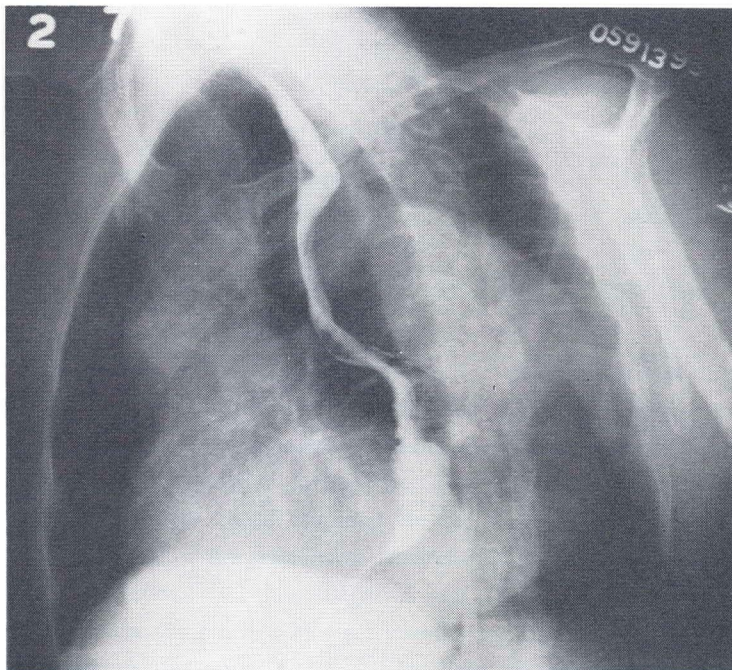
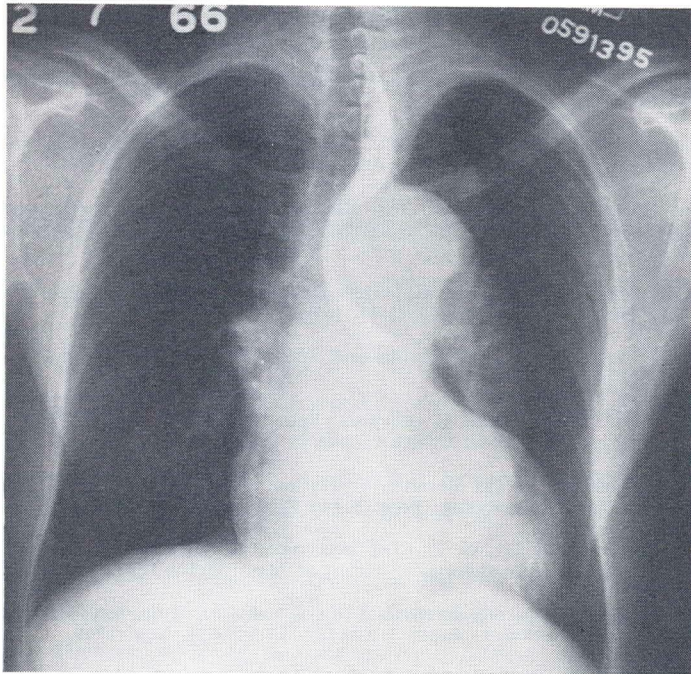
The physical signs of rheumatoid spondylitis were obvious in this patient. The presence of aortic insufficiency, marked left ventricular enlargement, atrioventricular conduction defect, right bundle branch block, and aneurysmal dilatation of the aorta suggests that many of the cardiac manifestations associated with rheumatoid spondylitis were present. In our view, the absence of a specific history of rheumatic fever and repeatedly negative serologic tests for syphilis exclude other causes of cardiovascular disease. We have concluded that the aortitis associated with rheumatoid spondylitis is present in this patient. Since such involvement previously was thought to be limited to the ascending aorta, aneurysm of the entire thoracic aorta in this patient is worthy of note.

#### SUMMARY

A case of a patient with rheumatoid spondylitis, aortic regurgitation and aneurysm of the entire thoracic aorta, presumably due to the aortitis of rheumatoid spondylitis, is presented. Aneurysm of the entire aorta associated with rheumatoid spondylitis has not been described in the past, to our knowledge.



*RHEUMATOID SPONDYLITIS*



Figures 1 and 2

Chest roentgenograms showing aneurysmal dilatation of thoracic aorta.

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